



DEFENSE INFORMATION SYSTEMS AGENCY

JOINT INTEROPERABILITY TEST COMMAND
FORT HUACHUCA, ARIZONA 85613-7020

✓ REPLY
REFER TO Networks, Transmission and
Integration Division (JTE)

SEP 26

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Automated Message Handling System Version 2.3.6
Interoperability Test Report

1. The enclosed report provides the results of the Automated Message Handling System Version 2.3.6 interoperability certification test.
2. The Joint Interoperability Test Command point of contact for this plan is Ms. Connie Silvestri, JTEC, commercial (520) 538-5182, DSN 879-5182. Her e-mail is silvestc@fhu.disa.mil.

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Interoperability Test Report

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DEFENSE INFORMATION SYSTEMS AGENCY

*JOINT INTEROPERABILITY TEST COMMAND
FORT HUACHUCA, ARIZONA*



**AUTOMATED MESSAGE
HANDLING SYSTEM
VERSION 2.3.6
INTEROPERABILITY
TEST REPORT**

SEPTEMBER 2000

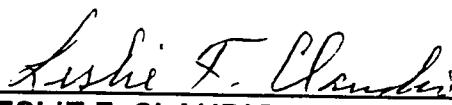
AUTOMATED MESSAGE
HANDLING SYSTEM
VERSION 2.3.6
INTEROPERABILITY
TEST REPORT

SEPTEMBER 2000

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EXECUTIVE SUMMARY

The Automated Message Handling System (AMHS), a Department of Defense Intelligence Information System (DODIIS) intelligence mission application, provides message- and text-handling services. AMHS receives and disseminates incoming messages; processes messages; archives messages in its database; searches and retrieves messages from its database; and generates and transmits messages.

To perform its mission, AMHS V2.3.6 receives and disseminates formatted messages via Defense Message System (DMS) Transition Hub (DTH) (over Automated Digital Network (AUTODIN)), DODIIS AUTODIN Bypass System (DABS) (over the Joint Worldwide Intelligence Communications Network), Local Area Networks, and the SECRET Internet Protocol Router Network. It interoperates with other message-handling systems, such as:

- Communications Support Processor (CSP) Version 5.6a
- CSP Secure Messaging and Routing Terminal (SMART) Version 2.1 with the CSP to DMS Addressing Component Version 1.1
- DMS Version 2.1.

Testing included requesting and receiving all formatted messages types from CSP, CSP SMART, and DMS; performing all standard processing tasks; and exporting formatted messages to all destination systems. AMHS V2.3.6 successfully exchanged formatted messages with designated systems and archived them into its internal database. Additionally, AMHS V2.3.6 performed these processes accurately, reliably, and in sufficient time for operators to perform their mission.

The Joint Interoperability Test Command (JITC) collected initial interoperability data of basic functional capabilities during Beta I (laboratory environment) testing at the Joint Integration Test Facility, Air Force Research Laboratory, Rome, New York, from 12 through 16 June 2000. JITC collected interoperability data collection of performance in a realistic setting during Beta II (operational environment) testing at the United States Air Force 497th Intelligence Group, Bolling Air Force Base, District of Columbia, from 17 through 18 August 2000.

AMHS V2.3.6 meets all of its critical interoperability requirements and is certified as interoperable for joint use. The Table below identifies the joint interface for AMHS V2.3.6 and their interoperable certification status.

AMHS V2.3.6 Interface Interoperability Certification Status

INTERFACING SYSTEM	VERSION	CRITICAL	STATUS	REMARKS
CSP	V5.6a	Yes	Certified	Met all interoperability criteria.
CSP SMART with CDAC V1.1	V2.1	No	Certified	Met all interoperability criteria.
DMS	V2.1	No	Certified	Met all interoperability criteria.

LEGEND:

CDAC - CSP to DMS Addressing Component
CSP - Communications Support Processor

DMS - Defense Message System
CSP SMART - CSP Secure Messaging and Routing Terminal

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SECTION I - INTRODUCTION

I-1 BACKGROUND

a. The Automated Message Handling System (AMHS), a Department of Defense Intelligence Information System (DODIIS) intelligence mission application, provides message- and text-handling services. AMHS receives and disseminates incoming messages; processes messages; archives messages in its database; searches and retrieves messages from its database; and generates and transmits messages.

b. The DODIIS Management Board (DMB) requested Joint Interoperability Test Command (JITC) support for testing and certifying the interoperability of DODIIS-developed systems. These tests determine the interoperability of DODIIS systems with other DODIIS, Joint, and Service systems. The results of interoperability testing will assist the DMB in rendering a fielding decision.

c. To perform its mission, AMHS V2.3.6 receives and disseminates formatted messages via Defense Message System (DMS) Transition Hub (DTH) (over Automated Digital Network (AUTODIN)), DODIIS AUTODIN Bypass System (DABS) (over the Joint Worldwide Intelligence Communications Network (JWICS)), Local Area Networks (LANs), and the SECRET Internet Protocol Router Network (SIPRNET). It interoperates with other message-handling systems, such as:

- Communications Support Processor Version 5.6a (CSP V5.6a)
- CSP Secure Messaging and Routing Terminal Version 2.1 (CSP SMART V2.1) with the CSP to DMS Addressing Component Version 1.1 (CDAC V1.1)
- DMS Version 2.1 (DMS V2.1).

d. AMHS V2.3.6, a software change to Version 2.3.5, adds the capability of web-based Java and Hypertext Markup Language applications and DMS compatibility. To ensure the software changes have not degraded the system's ability to interoperate with other systems, JITC tested this version's formatted message exchange capabilities.

I-2 PURPOSE. To determine the extent AMHS V2.3.6 can exchange formatted messages via DTH (over AUTODIN), DABS (over JWICS), LANs, and SIPRNET with other message-handling systems.

I-3 SCOPE

I-3.1 Overview

a. JITC collected initial interoperability data of basic functional capabilities during Beta I (laboratory environment) testing at the Joint Integration Test Facility, Air Force Research Laboratory, Rome, New York, from 12 through 16 June 2000. JTC collected interoperability data collection of performance in a realistic setting during Beta II (operational environment) testing at the United States Air Force 497th Intelligence Group, Bolling Air Force Base, District of Columbia, from 17 through 18 August 2000.

b. Figure I-1 depicts the AMHS V2.3.6 operational architecture. The AMHS V2.3.6 architecture supports the exchange of formatted messages between interfacing systems as described in the AMHS Concept of Operations. Table I-1 is the interface requirements matrix for AMHS V2.3.6. Both the USAF 497th Intelligence Group (DODIIS executive agent for AMHS) and the Electronic Systems Center (functional user's representative for AMHS) approved the "CRITICAL" interface evaluation.

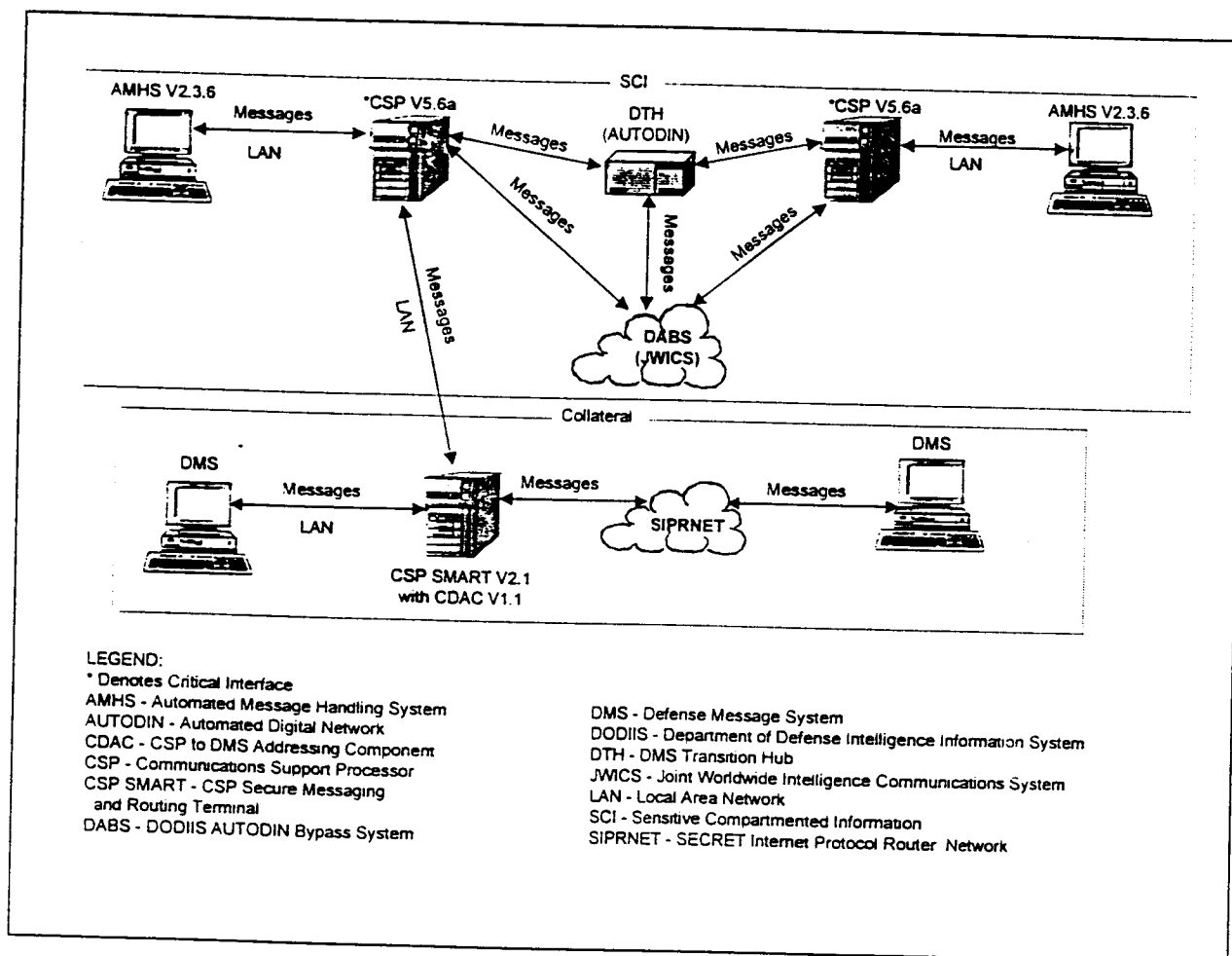


Figure I-1. AMHS V2.3.6 Operational Architecture

Table 1-1. AMHS V2.3.6 Interface Requirements Matrix

INTERFACING SYSTEM/VERSION	REQUIREMENT/ CRITERIA	EXCHANGE METHOD	INTERFACE DEVELOPED	REQUIREMENTS DOCUMENT	CRITICAL
CSP V5.6a	Receive and transmit formatted messages	DTH (via AUTODIN), DABS (via JWICS), LAN	Yes	AMHS CONOPS	Yes
CSP SMART V2.1 with CDAC V1.1	Receive and convert formatted messages to DMS formatted messages and transmit DMS formatted messages	LAN	Yes	AMHS CONOPS	No
DMS V2.1	Receive and transmit DMS formatted messages	LAN	Yes*	AMHS CONOPS	No

* DMS has not been deployed to all operational sites. Additionally, DMS has not been accredited for SCI operations.

LEGEND:

AMHS - Automated Message Handling System
AUTODIN - Automatic Digital Network
CONOPS - Concept of Operations
CDAC - CSP to DMS Addressing Component
CSP - Communications Support Processor
CSP SMART - CSP Secure Messaging and Routing Terminal
DABS - DODIIS AUTODIN Bypass System

DMS - Defense Message System
DODIIS - Department of Defense Intelligence Information System
DTH - DMS Transition Hub
LAN - Local Area Network
JWICS - Joint Worldwide Intelligence Communications System
SCI - Sensitive Compartment Information
SIPRNET - SECRET Internet Protocol Router Network

I-3.2 Limitations. All interfaces were tested in an operationally realistic environment except CSP SMART V2.1 with CDAC V1.1 and DMS. CSP SMART V2.1 with CDAC V1.1 and DMS was tested only at the JITF. However, the similarity of the JITF to an actual DODIIS operational site mitigates this limitation. JITC was unable to test the CSP SMART V2.1 with CDAC V1.1 and DMS V2.1 interfaces at the USAF 497th IG (operational environment) because the DMS SIPRNET node was not installed.

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SECTION II - DETAILS OF TEST

II-1 FORMATTED MESSAGE EXCHANGE

II-1.1 Objective. To determine the extent AMHS V2.3.6 can exchange, archive, and disseminate formatted messages via LAN, DTH (over AUTODIN), DABS (over JWICS), and SIPRNET with interfacing systems having a message exchange function (see Table I-1) using a serial and ethernet port connection.

II-1.2 Criteria

- a. **Timeliness.** AMHS V2.3.6 shall exchange formatted messages with interfacing systems in sufficient time to allow operators to perform their mission. (Operational use of similar systems suggests this time should be less than 1 minute.)
- b. **Reliability.** AMHS V2.3.6 shall:
 - (1) transmit DD 173 formatted messages.
 - (2) receive, as a single section, all formatted messages up to 40,000 characters and concatenate all multi-section messages.
 - (3) automatically archive incoming formatted messages into its database.
 - (4) disseminate all formatted messages according to specific operator-determined preset profiles.
- c. **Accuracy.** AMHS V2.3.6 shall:
 - (1) exchange all formatted messages with interfacing systems without character errors that affect the readability of the message.
 - (2) display all messages, including concatenated ones, without errors/missing sections that affect the readability of the message.
- d. **Usability.** AMHS V2.3.6 shall enable operators, without special procedures, to:
 - (1) print received formatted messages and save them to files.
 - (2) generate DD 173 formatted messages using user-defined templates.
 - (3) edit DD 173 formatted messages as they are being generated.

II-1.3 Test Procedures

a. **Test Conduct.** JITC used two test threads in testing AMHS V2.3.6. Figure II-1 shows the AMHS V2.3.6 DABS/DTH thread formatted message exchange test conduct schematic and Figure II-2 shows the AMHS V2.3.6 DMS thread formatted message exchange test conduct schematic. It also describes the actions taken by the different systems. See Appendix B, Figures B-1 and B-2, for the test network diagrams.

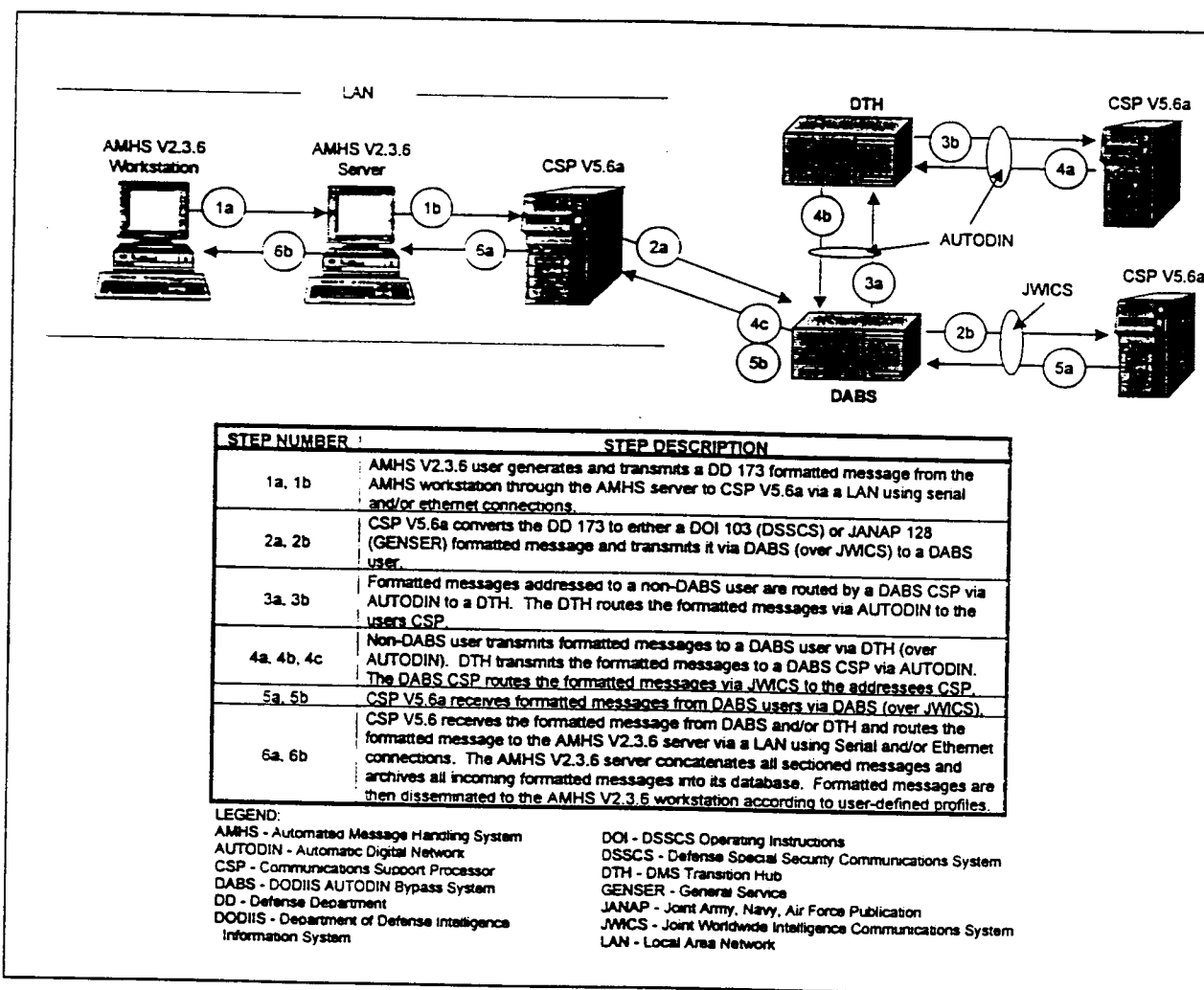


Figure II-1. AMHS V2.3.6 DABS/DTH Thread Formatted Message Exchange Test Conduct Schematic

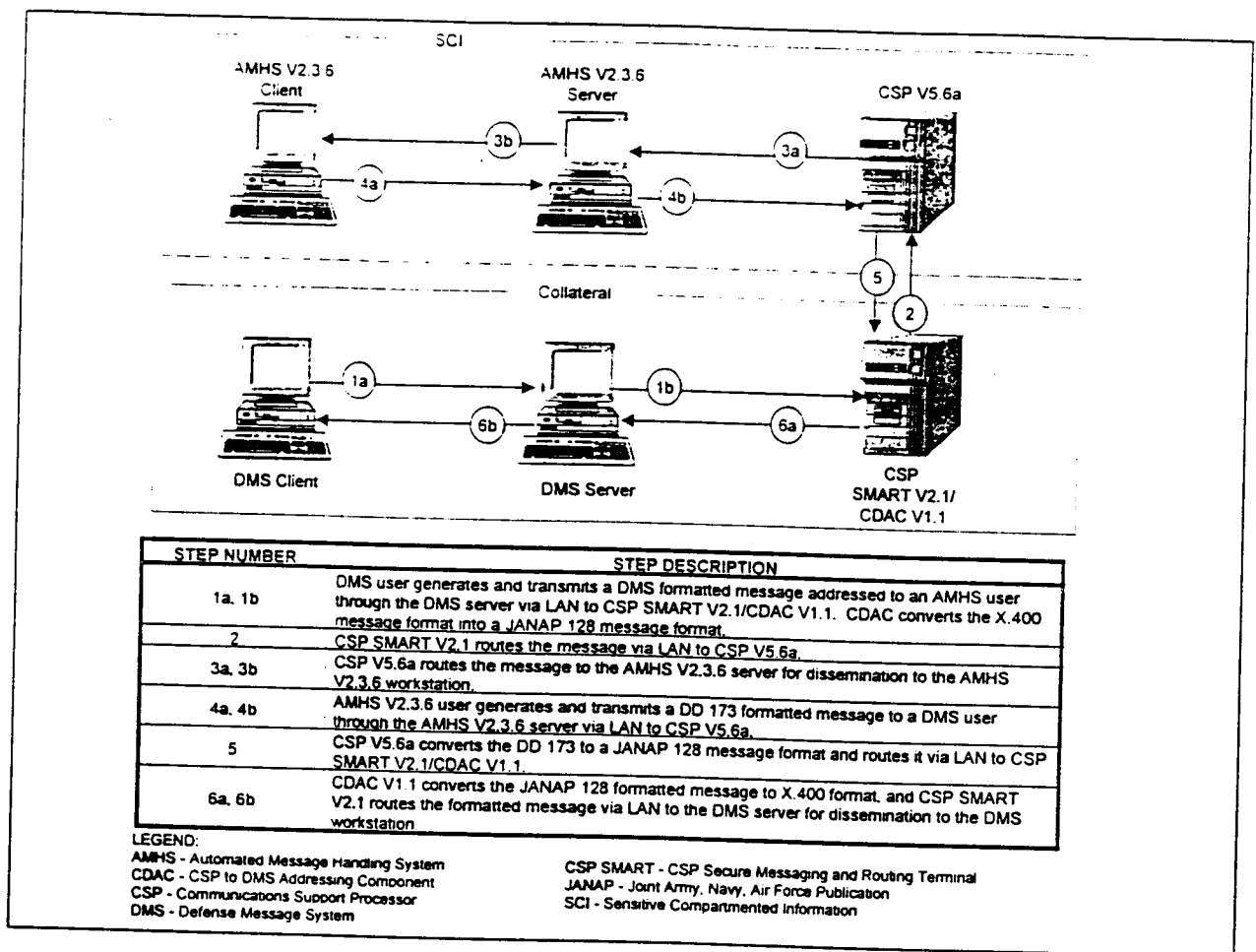


Figure II-2. AMHS V2.3.6 DMS Thread Formatted Message Exchange Test Conduct Schematic

b. Data Collection

(1) Criteria Related. The data collector:

- observed AMHS V2.3.6 exchanging formatted messages with interfacing systems and documented observations on data collection forms.
- accessed the AMHS V2.3.6 database and ensured formatted messages were archived correctly.
- accessed interfacing systems message logs and ensured that all messages transmitted by AMHS V2.3.6 were received.
- displayed formatted messages, including concatenated ones, and checked them for errors that affected readability of the message.
- interviewed operators and documented their responses concerning the system's timeliness and usability.

(2) Supplemental Data. The data collector:

- recorded system hardware and software configurations for the test site.
- interviewed operators and documented their responses, to include experience level.
- reviewed AMHS V2.3.6 technical documents and interviewed program technical personnel.

II-1.4 Results. The results depicted are a combination of Beta I and II test data. During Beta I testing AMHS V2.3.6 used both serial and ethernet port connections. No discernable differences in performance were observed.

a. **Timeliness.** Table II-1 shows the AMHS V2.3.6 timeliness results. There was no significant difference between the average and maximum times. Operators stated that AMHS V2.3.6 exchanged messages with interfacing systems in sufficient time for them to complete their mission. The operators involved in the test had an average of 6 years experience with AMHS and other message-handling systems.

Table II-1. AMHS V2.3.6 Formatted Message Exchange Timeliness Results

DABS/DTH THREAD*							
TX SYSTEM	COMMS PATH	RX SYSTEM	NUMBER OF MESSAGES TRANSMITTED	AVERAGE SIZE OF MESSAGES (Thousand of Characters)	MAXIMUM AND AVERAGE TIME TO RECEIVE (Seconds)		MEETS TEST CRITERIA
AMHS V2.3.6	LAN	CSP V5.6a	65	1,000	1		Yes
CSP V5.6a	LAN	AMHS V2.3.6	346	10,000	1		Yes
DMS THREAD*							
TX SYSTEM	COMMS PATH	RX SYSTEM	NUMBER OF MESSAGES TRANSMITTED	AVERAGE SIZE OF MESSAGES (Thousand of Characters)	MAXIMUM AND AVERAGE TIME TO RECEIVE (Seconds)		MEETS TEST CRITERIA
					With Attach	W/O Attach	
AMHS V2.3.6	LAN	DMS V2.1	20	1,000	1	NA	Yes
DMS V2.1	LAN	AMHS V2.3.6	28	1,000	1	1	Yes

* See Figures II-1 and II-2 for the thread description.

* See Figures II-1 and II-2 for the thread description.

LEGEND:

AMHS - Automated Message Handling System
 Attach - Attachments
 AUTODIN - Automatic Digital Network
 COMMS - Communications
 CSP - Communications Support Processor
 DABS - DODIIS AUTODIN Bypass System
 DMS - Defense Message System

DODIIS - Department of Defense Intelligence Information System
 DTH - DMS Transition Hub
 LAN - Local Area Network
 NA - Not Applicable
 RX - Receiving
 TX - Transmitting
 W/O - Without

b. Reliability. Table II-2 shows the AMHS V2.3.6 reliability results.

Table II-2. AMHS V2.3.6 Formatted Message Exchange Reliability Results

DABS/DTH THREAD*											
TX SYS	COMMS PATH	NR TX	MSG FORMAT	AVG SIZE (Thou)	RX SYS	NR RX	NR OF SECT MSG RX	NR CORR CONC	NR AUTO ARCHIVED INTO DATABASE	NR DISSEM BY PROFILE	MEETS TEST CRITERIA
AMHS V2.3.6	LAN	65	DD 173	1,000	CSP V5.6a	65	NA	NA	NA	NA	Yes
CSP V5.6a	LAN	313	JANAP 128	2,000	AMHS V2.3.6	313	13	13	446	446	Yes
	DABS	100	DOI 103	10,000		100	23	23			
		23	JANAP 128			23	7	7			
		10	DOI 103			10	4	4			
		0	JANAP 128			0	0	0			
		DMS THREAD*									
TX SYS	COMMS PATH	NR TX	MSG FORMAT	AVG SIZE (Thou)	RX SYS	NR RX	NR RX WITH ATTACHMENTS	NR AUTO ARCHIVED INTO DATABASE	NR DISSEM BY PROFILE	MEETS TEST CRITERIA	
AMHS V2.3.6	LAN	20	DD 173	1,000	DMS V2.1	20	NA	NA	NA	Yes	
DMS V2.1	LAN	28	X.400	1,000	AMHS V2.3.6	28	5	28	28	Yes	

* See Figures II-1 and II-2 for the thread description.

* See Figures II-1 and II-2 for the thread description.

LEGEND:

AMHS - Automated Message Handling System
 AUTO - Automatically
 AUTODIN - Automatic Digital Network
 AVG - Average
 COMMS - Communications
 CONC - Concatenated
 CORR - Correctly
 CSP - Communications Support Processor
 DABS - DODIIS AUTODIN Bypass System
 DD - Defense Department
 DISSEM - Disseminated
 DMS - Defense Message System
 DODIIS - Department of Defense Intelligence Information System

DOI - Defense Special Security Communications System
 Operating Instructions
 DTH - DMS transition Hub
 JANAP - Joint Army, Navy, Air Force Publication
 JITF - Joint Integration Test Facility
 LAN - Local Area Network
 MSG - Message
 NA - Not Applicable
 NR - Number
 RX - Receiving/Received
 SECT - Sectioned
 SYS - System
 Thou - Thousand of Characters
 TX - Transmitting/Transmitted

c. **Accuracy.** Table II-3 shows the AMHS V2.3.6 accuracy results.

Table II-3. AMHS V2.3.6 Formatted Message Exchange Accuracy Results

DABS/DTH THREAD*											
TX SYS	COMMS PATH	NR TX	MSG FORMAT	RX SYS	NUMBER OF MESSAGES RECEIVED		NUMBER OF MESSAGES DISPLAYED		NUMBER OF MESSAGES COMBINED AND CONCATENATED		MEETS TEST CRITERIA
					W/O Errors	With Errors	W/O Errors	With Errors	W/O Errors	With Errors	
AMHS V2.3.6	LAN	65	DD 173	CSP V5.6a	65	0	65	0	NA	NA	Yes
CSP V5.6a	LAN	313	JANAP 128	AMHS V2.3.6	313	0	313	0	13	0	Yes
	DABS	100	DOI 103		100	0	100	0	23	0	
		23	JANAP 128		23	0	23	0	7	0	
	DTH	10	DOI 103		10	0	10	0	4	0	
		0	JANAP 128		0	0	0	0	0	0	
DMS THREAD*											
TX SYS	COMMS PATH	NR TX	MSG FORMAT	RX SYS	NUMBER OF MESSAGES RECEIVED		NUMBER OF MESSAGES DISPLAYED		NUMBER OF MESSAGES COMBINED AND CONCATENATED		MEETS TEST CRITERIA
					W/O Errors	With Errors	W/O Errors	With Errors	W/O Errors	With Errors	
AMHS V2.3.6	LAN	20	DD 173	DMS V2.1	20	0	20	0	NA	NA	Yes
DMS V2.1	LAN	28	X.400	AMHS V2.3.6	28	0	28	0	NA	NA	Yes
			X.400			0		0	NA	NA	
						0		0	NA	NA	

* See Figures II-1 and II-2 for the thread description.

* See Figures II-1 and II-2 for the thread description.

LEGEND:

AMHS - Automated Message Handling System
AUTODIN - Automatic Digital Network
COMMS - Communications
CSP - Communications Support Processor
DABS - DODIIS AUTODIN Bypass System
DD - Defense Department
DMS - Defense Message System
DODIIS - Department of Defense Intelligence
Information System
DOI - Defense Special Security Communications
System Operating Instructions

DTH - DMS transition Hub
JANAP - Joint Army, Navy, Air Force Publication
JITF - Joint Integration Test Facility
LAN - Local Area Network
MSG - Message
NA - Not Applicable
NR - Number
RX - Receiving
SYS - System
TX - Transmitting
W/O - Without

- d. **Usability.** Table II-4 shows the AMHS V2.3.6 usability results.

Table II-4. AMHS V2.3.6 Formatted Message Exchange Usability Results

DABS/DTH THREAD*												
TX SYS	COMMS PATH	RX SYS	NUMBER OF MESSAGES									MEETS TEST CRITERIA
			Printed		Saved		Generated with Templates		Edited While Generating		Requiring Special Procedures to Exchange	
			Suc	Unsuc	Suc	Unsuc	Suc	Unsuc	Suc	Unsuc		
AMHS V2.3.6	LAN	CSP V5.6a	NA	NA	65	0	65	0	65	0	0	Yes
CSP V5.6a	LAN	AMHS V2.3.6	14	0	108	0	NA	NA	NA	NA	0	Yes
	DABS		25	0	60	0					0	
DMS THREAD*												
TX SYS	COMMS PATH	RX SYS	NUMBER OF MESSAGES									MEETS TEST CRITERIA
			Printed		Saved		Generated with Templates		Edited While Generating		Requiring Special Procedures to Exchange	
			Suc	Unsuc	Suc	Unsuc	Suc	Unsuc	Suc	Unsuc		
AMHS V2.3.6	LAN	DMS V2.1	NA	NA	NA	NA	0	0	0	0	0	Yes
DMS V2.1	LAN	AMHS V2.3.6	13	0	28	0	5	0	5	0	0	
							NA	NA	NA	NA	0	Yes

* See Figures II-1 and II-2 for the thread description.

* See Figures II-1 and II-2 for the thread description.

LEGEND:

AMHS - Automated Message Handling System
AUTODIN - Automatic Digital Network
COMMS - Communications
CSP - Communications Support Processor
DABS - DODIIS AUTODIN Bypass System
DMS - Defense Message System
DODIIS - Department of Defense Intelligence Information System
DTH - DMS transition Hub

LAN - Local Area Network
NA - Not Applicable
RX - Receiving
SYS - System
Suc - Successful
TX - Transmitting
Unsuc - Unsuccessful

II-1.5 Analysis and Discussion

- Timeliness.** AMHS V2.3.6 met all message exchange timeliness criteria.
- Accuracy.** AMHS V2.3.6 met all message exchange accuracy criteria.
- Reliability.** AMHS V2.3.6 met all message exchange reliability criteria.
- Usability.** AMHS V2.3.6 met all message exchange usability criteria.

II-1.6 Conclusion

- AMHS V2.3.6 can exchange, process, archive, retrieve, and disseminate DD 173, DOI 103, JANAP 128, and Microsoft Outlook (X.400) formatted messages. AMHS V2.3.6 can exchange formatted messages via DABS (over JWICS), DTH (over AUTODIN), and LANs to other message-handling systems such as:

- CSP V5.6a
- CSP SMART V2.1 with CDAC V1.1
- DMS V2.1.

- b. Table II-5 is the interface certification status for AMHS V2.3.6.

Table II-5. AMHS V2.3.6 Interface Certification Status

INTERFACING SYSTEM AND VERSION	REQUIREMENT/ CRITERIA	CRITICAL INTERFACE	TEST RESULTS	OPERATIONAL IMPACT	INTERFACE STATUS
CSP V5.6a	Receive and transmit formatted messages	Yes	CSP V5.6a could receive and transmit all formatted messages.	None	Certified
CSP SMART V2.1 with CDAC V1.1	Receive and convert formatted messages to DMS formatted messages and transmit DMS formatted messages	No	CSP SMART V2.1 received and transmitted all formatted messages from CSP V5.6a. CDAC V1.1 converted all formatted messages to DMS formatted messages and vice versa.	None	Certified
DMS V2.1	Receive and transmit DMS formatted messages	No	DMS received all formatted messages from AMHS V2.3.6 via CSP V5.6a. CSP SMART V2.1 with CDAC V1.1. DMS transmitted X.400 (MS Outlook e-mail) messages to AMHS V2.3.6 via CSP SMART V2.1 with CDAC V1.1. All messages exchanged consisted of short ASCII text files only.	None	Certified

LEGEND:

AMHS - Automated Message Handling System
 ASCII - American Standard Coded Information Interchange
 CDAC - CSP to DMS Addressing Component

CSP - Communications Support Processor
 CSP SMART - CSP Secure Messaging and Routing Terminal
 DMS - Defense Message System
 MS - Microsoft

APPENDIX A

ACRONYMS

AFB	Air Force Base
AIS	Automated Information System
AMHS	Automated Message Handling System
Attach	Attachments
AUTODIN	Automatic Digital Network
AVG	Average
C3I	Command, Control, Communications, and Intelligence
C4I	Command, Control, Communications, Computers, and Intelligence
CDAC	CSP to DMS Addressing Component
CJCSI	Chairman of the Joint Chiefs of Staff Instruction
CONC	Concatenated
CONOPS	Concept of Operations
CORR	Correctly
CSE	Client Server Environment
CSP	Communications Support Processor
CSP SMART	Communications Support Processor Secure Messaging and Routing Terminal
DABS	DODIIS AUTODIN Bypass System
DD	Defense Department
DEC	Digital Equipment Corporation
DExA	DODIIS Executive Agent
DIA	Defense Intelligence Agency
DISSEM	Disseminated
DMB	DODIIS Management Board
DMS	Defense Message System
DOD	Department of Defense
DODIIS	Department of Defense Intelligence Information System
DOI	Defense Special Security Communications System Operating Instructions
DSA	Directory Server Agent
DSSCS	Defense Special Security Communications System
DTH	DMS Transition Hub
EQ	Equipment
GENSER	General Service
HP	Hewlett-Packard

IMA	Intelligence Mission Application
JANAP	Joint Army, Navy, Air Force Publication
JIEO	Joint Interoperability and Engineering Organization
JITC	Joint Interoperability Test Command
JITF	Joint Integration Test Facility
JWICS	Joint Worldwide Intelligence Communications System
LAN	Local Area Network
MAIS	Major Automated Information System
MDAP	Mandatory Procedures for Major Defense Acquisition Programs
MOS	Military Occupation Specialty
MSG	Message
MTA	Message Transfer Agent
NA	Not Applicable
NIPRNET	Unclassified but Sensitive Internet Protocol Router Network
NR	Number
NT	New Technology
OS	Operating System
RX	Receiving/Received
SCI	Sensitive Compartmented Information
SECT	Sectioned
SIMO	Systems Integration and Management Office
SIPRNET	SECRET Internet Protocol Router Network
Suc	Successful
SYS	System
T&E	Test and Evaluation
Thou	Thousand of Characters
TX	Transmitting/Transmitted
Unsuc	Unsuccessful
USAF	United States Air Force
VMS	Virtual Memory System
W/O	Without

APPENDIX B

TEST RESOURCES AND EQUIPMENT DESCRIPTIONS

B-1 TEST SITES AND FACILITIES. The Joint Interoperability Test Command (JITC) collected initial interoperability data of basic functional capabilities during Beta I (laboratory environment) testing at the Joint Integration Test Facility, Air Force Research Laboratory, Rome, New York, from 12 through 16 June 2000. JITC collected interoperability data collection of performance in a realistic setting during Beta II (operational environment) testing at the United States Air Force 497th Intelligence Group (IG), Bolling Air Force Base, District of Columbia, from 17 through 18 August 2000. Figures B-1 and B-2 show the JITF and USAF 470th IG test networks, respectively.

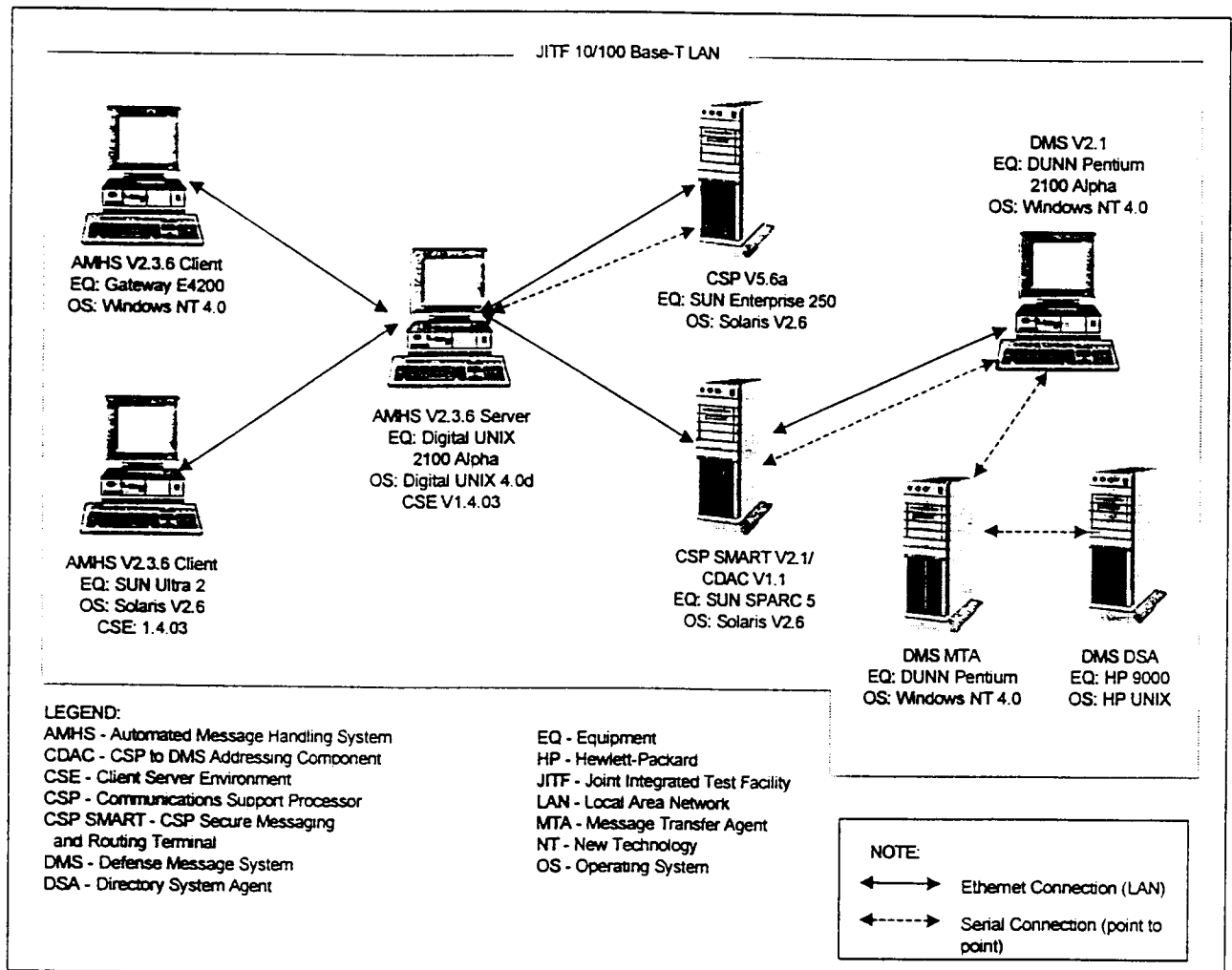


Figure B-1. JITF AMHS V2.3.6 Test Network

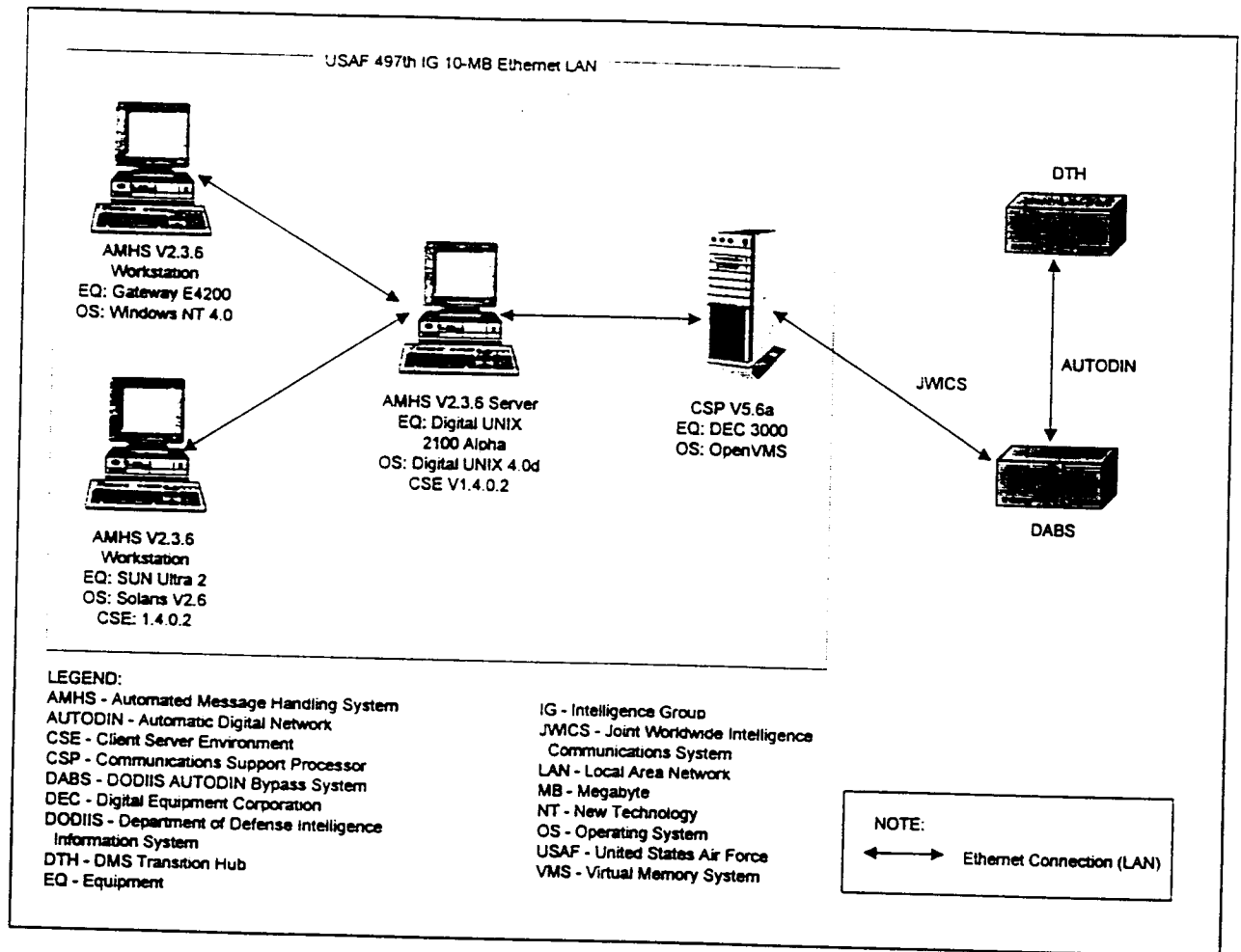


Figure B-2. USAF 497th IG AMHS V2.3.6 Test Network

B-2 TEST EQUIPMENT. No special test equipment was required.

B-3 CIRCUIT REQUIREMENTS. The JITF and 497th IG provided all required connectivity.

B-4 PERSONNEL REQUIREMENTS

<u>Function</u>	<u>Quantity</u>	<u>Source</u>
Test Director/Conductor	1	JITC
Data Collector	1	JITC
Operators	2	497th IG/JITF
		AMHS Program Office

B-5 SYSTEM DESCRIPTIONS

- a. **Automated Message Handling System (AMHS).** AMHS, a Department of Defense Intelligence Information System (DODIIS) intelligence mission application, provides message- and text-handling services. AMHS receives and disseminates incoming messages; processes messages for the Defense Message System Transition Hub (DTH), DODIIS Automatic Digital Network (AUTODIN) Bypass System (DABS), and wire services; archives messages in its database; searches and retrieves messages from its database; and generates and transmits messages. AMHS provides connectivity to and interoperability with other Government agencies, allies, tactical users, defense contractors, and other approved activities external to the Defense Message System (DMS) community through the Communications Support Processor (CSP).
- b. **Communications Support Processor (CSP).** CSP is a secure message processing system that provides trusted handling of Secret and below and Sensitive Compartmented Information (SCI) AUTODIN and DODIIS AUTODIN Bypass System (DABS) traffic. CSP has been accredited for Multi-level Secure mode of operation for fixed-based and tactical communications. CSP provides protocol normalization, message format normalization, format conversion, and redundant security measures.
- c. **Communications Support Processor Secure Messaging and Routing Terminal (CSP SMART).** CSP SMART, a compact version of CSP, provides the same functionality as CSP. CSP SMART is a message-handling system that expands the classified messaging community's access to Local Area Networks (LANs), SECRET Internet Protocol Router Network (SIPRNET), Unclassified but Sensitive Internet Protocol Router Network (NIPRNET), Joint Worldwide Intelligence Communications System (JWICS), e-mail, and browser resources. Additionally, CSP SMART provides a DMS migration path by providing a communications bridge between AUTODIN and DMS.
- d. **CSP to DMS Addressing Component (CDAC).** CDAC is a new component of CSP that facilitates messaging between DMS, AUTODIN, and the CSP backside systems. CDAC converts AUTODIN and DMS formatted messages to the format required by the receiving system. CDAC can be either a coresident process with the CSP application or on a separate server. CDAC was initially designed to support the intelligence community for both the Defense Special Security Communications System (DSSCS) and General Service (GENSER) communications, but the technology is being extended to support military operations and combat support unit domains.
- e. **Defense Message System (DMS).** DMS is based on commercial products and is a constantly evolving system. DMS is structured to provide an interoperable, seamless, and secure writer-to-reader electronic messaging system for both organizational and individual users in the Department of Defense (DOD). DMS replaces AUTODIN and merges existing and planned organizational electronic messaging and individual e-mail solutions for the DOD into a single messaging system.

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APPENDIX C

REFERENCES

C-1 DEPARTMENT OF DEFENSE (DOD) DOCUMENTS

- a. DOD Regulation 5000.2-R, "Mandatory Procedures for Major Defense Acquisition Programs (MDAP) and Major Automated Information System (MAIS) Acquisition Programs," 15 March 1996.
- b. DOD Instruction 4630.8, "Procedures for Compatibility, Interoperability, and Integration of Command, Control, Communications, and Intelligence (C3I) Systems," 18 November 1992.
- c. DOD Directive 4630.5, "Compatibility, Interoperability, and Integration of C3I [Command, Control, Communications, and Intelligence] Systems," 12 November 1992.
- d. Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6212.01B, "Interoperability and Supportability of National Security Systems, and Information Technology Systems," 8 May 2000.

C-2 DEPARTMENT OF DEFENSE INTELLIGENCE INFORMATION SYSTEM (DODIIS) MANAGEMENT BOARD (DMB) DOCUMENTS

- a. "DODIIS Instructions 2000," DMB, ATTN: DODIIS Systems Integration and Management Office (SIMO) (DS-IM), Bolling Air Force Base, DC 20340, February 2000.
- b. "Test and Evaluation Policy for DODIIS Intelligence Mission Applications," DODIIS Executive Agent (DExA) for Test and Evaluation, 497th Intelligence Group/INDIT, 240 Luke Avenue, Building 1304, Bolling Air Force Base, DC 20332-7030, March 2000.

C-3 DEFENSE INFORMATION SYSTEMS AGENCY (DISA)/JOINT INTEROPERABILITY TEST COMMAND (JITC) DOCUMENTS

- a. Joint Interoperability Engineering Organization (JIEO)/JITC Circular 9002, "Requirements Assessment and Interoperability Certification of C4I [Command, Control, Communications, Computers, and Intelligence] and Automated Information System (AIS) Equipment and Systems," 23 January 1995.
- b. "Memorandum of Agreement Between JITC, DMB, DExA for Migration Systems Test, and the Joint Integration Test Facility (JITF)," SUBJECT: Interoperability Test and Certification of DODIIS Migrations Systems, undated.

c. JITC Instruction 210-85-01, "Documentation of Test and Evaluation Activities." 8 November 1994.

d. JITC, "Interoperability Certification Test Program Plan for DODIIS Migration Systems, Version 1.0," August 1996.

e. JITC, "Automated Message Handling System (AMHS) Version 2.3.6 Interoperability Test Plan," July 2000.

C-4 AMHS PROGRAM MANAGEMENT OFFICE DOCUMENTS

Defense Intelligence Agency, "AMHS CONOPS [Concept of Operations], DODIIS Letter U-12, 517/DSE-1B," 17 May 1988.